

ABSTRACT

A lithium secondary battery includes: an electrode body having a positive electrode, a negative electrode, and a separator, 5 the positive electrode and the negative electrode being wound or laminated by means of the separator; and a nonaqueous electrolyte solution containing a lithium compound as a electrolyte. At least one of the positive electrode, the negative 10 electrode, the separator, the nonaqueous electrolyte solution contains at least one of: (a) an organic and/or inorganic inhibitor, which functions as a Cu-corrosion inhibitor or a Cu-trapping agent, (b) a compound having an organic base and an 15 inorganic acid which are unitarily combined in a molecule, (c) a cyclic compound containing a N-O radical in a molecular structure, (d) a cyclic compound which becomes a Mn²⁺ supplier in the nonaqueous electrolyte solution, (e) a compound containing an atom showing Lewis acidity and an atom showing Lewis basivity in one molecule, (f) a three-dimensional siloxane 20 compound, and (g) a nonionic surfactant; or the nonaqueous electrolyte solution contains: (h) a water-extracting agent, or (i) a hydrofluoric acid-extracting agent. This lithium secondary battery exhibits an excellent effect that self-discharge property, cycle characteristics, long period stability and reliability can be planned.

APPLIED CHEMISTRY